This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-18 canceled.

19. (Previously Amended) A method of manufacturing carbon fiber coils comprising:

placing a solid catalyst within a reaction chamber;
supplying stock gas and a catalytic gas to the reaction chamber;
applying voltage to the solid catalyst to charge the solid catalyst; and

heating the interior of the chamber to grow carbon fiber coils from the stock gas, wherein an exterior of the reaction chamber is substantially free of a magnetic field during the heating.

Claims 20-23 canceled.

24. (Previously presented) The method according to claim 19, wherein the voltage is a DC voltage and the solid catalyst is negatively charged.

25. (Previously presented) The method according to claim 19, wherein the interior of the chamber is heated to a temperature in the range of 700 to 830 degrees Centigrade.

26. (Currently Amended) An apparatus for manufacturing carbon fiber coils from a stock gas, which is subjected to thermal decomposition to generate solid carbon, and a catalytic gas, which promotes thermal decomposition of the stock gas, the apparatus comprising:

a reaction chamber, to which the stock gas and the catalytic gas are supplied through a port;

a solid catalyst located within the reaction chamber;

a power source, which is external to the reaction chamber, for applying voltage to the solid catalyst; **[[and]]**

a heating device for heating the interior of the reaction chamber to grow carbon fiber coils from the stock gas, wherein the heating device produces substantially no magnetic field in the reaction chamber;

wherein the catalytic gas contains at least one of sulfur compound and phosphorus compound, and the sulfur compound and phosphorus compound include thiophene, hydrogen sulfide, methylmercaptan, and phosphorus trichloride;

wherein the solid catalyst faces an outlet of the port and is spaced from the outlet by a distance, and the stock gas is supplied to the reaction chamber at a certain velocity, wherein the ratio of the velocity of the stock gas to the distance is in a range of 10 to 10000, wherein the velocity is expressed in centimeters per minute and the distance is expressed in centimeters; and

wherein the catalytic gas contains at least one of sulfur compound and phosphorus compound, and the sulfur compound and phosphorus compound include thiophene, hydrogen sulfide, methylmercaptan, and phosphorus trichloride.

Please cancel claim 27.

28. (Currently amended) The apparatus according to claim [[27]] 26, wherein the stock gas contains one of acetylene, methane, and propane.

29. (Previously presented) The apparatus according to claim 28, wherein the catalyst contains microcrystalline nickel.

Please cancel claim 30.

Claim 31 canceled.

32. (Previously presented) The apparatus according to claim 26, wherein the reaction chamber is heated to a temperature in the range of 700 to 830 degrees Centigrade.

Claims 33-35 canceled.

36. (Previously presented) The apparatus according to claim 35, wherein the power source is a DC power source for negatively charging the solid catalyst.

Claims 37-40 canceled.